HITACHI

PROJECTION COLOR TV

60SX10B/11K, 50SX7P, 50UX22B/23K, 46UX20B/21K

OPERATING GUIDE

TABLE OF CONTENTS

IMPORTANT 3
SAFETY TIPS 4
PICTURE CAUTIONS 9
ACCESSORIES 10
REMOTE CONTROL BATTERY INSTALLATION AND REPLACEMENT 10
HOW TO SET UP YOUR NEW HITACHI PROJECTION TV 10
HOOK-UP CABLES AND CONNECTORS 12
ANTENNA CONNECTIONS TO REAR JACK PANEL 13
FRONT PANEL CONTROLS 13
MENU BUTTON 14
AVX (Audio/Video) selector/ENTER button 14
VOLUME level 14
CHANNEL selector 14
POWER button 14
POWER light 14
AI (Artificial Intelligence) sensor 14
REMOTE CONTROL sensor 14
ADJUSTMENT MODE button 15
FRONT INPUT JACKS (for VIDEO :3) 15
FRONT PANEL JACKS AND CONNECTIONS 15
REAR PANEL JACKS 15
Antenna Input / Output 15
Audio/Video Inputs 1, 2 16
Monitor Out 16
Audio to Hi-Fi 16
Transmitter Out 16
Rear Speaker Terminals 16
S-Video 16
REAR PANEL CONNECTIONS 16
REAR SPEAKER TERMINAL CONNECTIONS 17
TIPS ON REAR PANEL CONNECTIONS 17
AUDIO SYSTEM SET-UP 18
THE REMOTE CONTROL (CLU-951MP) 18
MULTI-PAGE select switch 19
MULTI-PAGE buttons 19
, LIGHT BUTTON 19
HOW TO USE THE REMOTE TO CONTROL YOUR TV 19

TV POWER button 20
CABLE/VCR/AUDIO POWER button 20
RECALL button 20
ANT button 21
MENU, ENTER, CURSOR buttons 21
CHANNEL SELECTOR buttons 21
AVX button 21
VOLUME, MUTE buttons 22
LAST CHANNEL (LST-CH) button 22
PICTURE-IN-PICTURE buttons 23
SURROUND (SRD) button 23
ARTIFICIAL INTELLIGENCE (AI) button 23
PICTURE-IN-PICTURE (PIP) 23
PIP BUTTON 23
SWAP BUTTON 24
SHIFT BUTTON 24
FREEZE (FRZ) BUTTON 24
STROBE FREEZE 24
USING THE REMOTE TO CONTROL VCR FUNCTIONS 25
PRECODED VCR BUTTONS 26
EXCLUSIVE TV BUTTONS 26
USING THE REMOTE TO CONTROL CABLE BOX FUNCTIONS 26
PRECODED FOR CABLE BOX 27
EXCLUSIVE TV BUTTONS 27
USING THE REMOTE TO CONTROL AUDIO EQUIPMENT FUNCTIONS 27
PRECODED FOR AUDIO EQUIPMENT 28
EXCLUSIVE TV BUTTONS 28
VCR AND CABLE BOX CODES 28
These are additional codes not listed in the manual: 30
EASY GRAPHIC GUIDE 31
SET UP 33
AIR/CABLE 33
AUTO PROGRAM 34
CHANNEL MEMORY 34
CLOSED CAPTION 35
MENU LANGUAGE 36
PROGRAM 36
CHANNEL CAPTION 36
PROGRAM LIST 37
VOLUME CORRECTION 38
CLOCK 39
CLOCK SET 39
ON/OFF TIMER 39
MESSAGE-1 40
CALENDAR 40
VIDEO 41
PREFERENCE ADJUST 41
PREFERENCE ADJUST 42

CONVERGENCE CORRECTION 43
AUDIO 44
PREFERENCE ADJUSTMENT 44
PREFERENCE SETTING 45
SURROUND 46
DOLBY PRO LOGIC 47
WIRELESS MODE 48
CARE OF YOUR HITACHI PROJECTION TV AND YOUR REMOTE CONTROL 49
RECEPTION PROBLEMS 49
CHECK HERE BEFORE CALLING FOR SERVICE 50
SPECIFICATIONS 51
HITACHI SERVICE HOTLINE 52
WARRANTY CARD, front 53
HITACHI PROJECTION TV LIMITED WARRANTY 53
WARRANTY CARD, back 54

IMPORTANT

Follow all warnings and instructions marked on this television receiver.

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS TELEVISION SYSTEM TO RAIN OR MOISTURE.

NOTE: **There are no user serviceable parts inside the receiver.**
Model number and serial number are indicated on the back side of the set.

POWER SOURCE:
This projection color TV is designed to operate on 120 volts 60 Hz, AC household current. Insert power cord into a 120 volt 60 Hz outlet.
TO PREVENT ELECTRIC SHOCK, DO NOT USE THE TELEVISION'S PLUG WITH AN EXTENSION CORD, RECEPTACLE, OR OTHER OUTLET UNLESS THE BLADES AND GROUND TERMINAL CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.
NEVER CONNECT THE TV TO 50 Hz, DIRECT CURRENT, OR ANYTHING OTHER THAN THE SPECIFIED VOLTAGE.

NOTE: This television receiver will display television closed captioning (or), in accordance with paragraph 15, 119 of the FCC rules.

CAUTION: Never remove the back cover of the set as this can expose you to very high voltages and other hazards. If the set does not operate properly, unplug the set and call your dealer or service shop. Hitachi's 60SX10B, 60SX10B, 60SX11K, 50SX7P, 50UX22B, 50UX23K, 46UX20B, and 46UX21K employ state-of-the-art computer circuits to enhance picture performance. Should your projection TV become unplugged from the AC wall outlet or lose AC power due to a local power failure, please wait at least 30 seconds following return of power before turning on your TV. This will allow the computers time to check/correct any internal errors caused by the loss of power.

SAFETY TIPS

IMPORTANT SAFEGUARDS

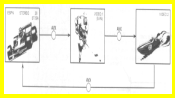
SAFETY POINTS YOU SHOULD KNOW ABOUT
YOUR HITACHI TELEVISION RECEIVER

CAUTION:
* Read all of these instructions.
* Save these instructions for later use.
* Follow all warnings and instructions marked on the television receiver.

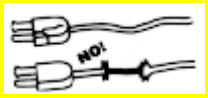
Our reputation has been built on the quality, performance, and ease of service of HITACHI television receivers.
Safety is also foremost in our minds in the design of these units. To help you operate these products properly, this section illustrates safety tips which will be of benefit to you. Please read it carefully and apply the knowledge you Obtain from it to the proper operation of your HITACHI television receiver.
Please fill out your warranty card at once and mail it to HITACHI. This will enable HITACHI

to notify you promptly in the improbable event that a safety problem should be discovered in your model of product.

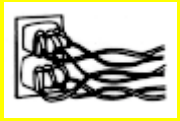
FOR YOUR PERSONAL SAFETY



1 This television set is equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.



2 When the power cord or plug is damaged or frayed, unplug this television set from the wall outlet and refer servicing to qualified service personnel.



3 Do not overload wall outlets and extension cords as this can result in fire or electric shock.

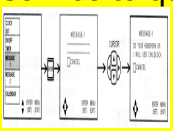
4 Do not allow anything to rest on or roll over the power cord, and do not place the TV where the
power cord is subject to traffic or abuse. This may result in a shock or fire hazard.

5 Do not attempt to service this television set yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

6 Never push objects of any kind into this television set through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the television set.

7 If the television set has been dropped or the cabinet has been damaged, unplug this television set from the wall outlet and refer servicing to qualified service personnel.

8 If liquid has been spilled into this television set, unplug it from the wall outlet and refer service to qualified service personnel.



9 Do not subject your television set to impact of any kind. Be particularly careful not to damage the picture tube surface.

10 Unplug this television set from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

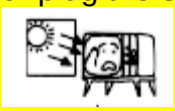
11-1 Do not place this television set on an unstable cart, stand, or table. The television set may fall, causing serious injury to a child or an adult, and serious damage to the appliance. Use only with a cart or stand recommended by the manufacturer, or sold with the television set. Wall or shelf mounting should follow the manufacturer's instructions, and should use a mounting kit approved by the manufacturer.

11-2 An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

PROTECTION AND LOCATION OF YOUR SET

12 Do not use this television set near water, for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, etc.

Never expose the set to rain or water. If the set has been exposed to rain or water, unplug the set from the wall outlet and refer servicing personnel.



13 Choose a place where light (artificial or sunlight) does not shine directly on the screen.

14 Avoid dusty places, since accumulated dust inside the chassis may cause failure of the set when high humidity persists.
15 The set has slots, or openings in the cabinet for ventilation purposes, to provide reliable operation of the receiver, and to protect from overheating. These openings must not be blocked or covered.

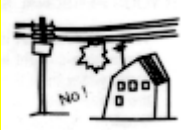
Never cover the slots or openings with cloth or other material.

Never block the bottom ventilation slots of the set by placing it on a bed, sofa, rug, etc.

Never place the set near or over a radiator or heat register.

Never place the set in a "built-in" enclosure, unless proper ventilation provided.

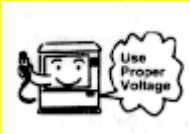
PROTECTION AND LOCATION OF YOUR SET
16-1 If an outside antenna is connected to the television set, be sure the antenna system is protected against voltage surges and built up static charges, Section 810 of the National Electrical Code, NFPA No. 70-1975, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrode, and requirements for the grounding electrode.
Click to see antenna grounding diagram.
16-2 **Note to CATV system installer:** (Only for the television set with CATV reception) This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.



17 An outside antenna system should not be located in the vicinity of overhead power lines or other electrical lights or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

18 For added protection for this television set during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna. This will prevent damage due to lightning and power-line surges.

OPERATION OF YOUR SET



19 This television set should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply at your home, consult your television dealer or local power company. For television sets designed to operate from battery power, refer to the operating instructions.

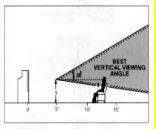
20 If the television set does not operate normally by following the operating instructions, unplug this set television set from the wall outlet and refer servicing to qualified service personnel. Adjust only those controls that are covered in the operating instructions as improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the television set to normal operation.

21 When going on a holiday: If your television set is to remain unused for a period of time, turn the television set "off" and unplug it from the wall outlet.

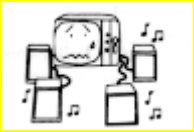
IF THIS SET DOES NOT OPERATE PROPERLY

22 If you are unable to restore normal operation by following the detailed procedure in your operating instructions, do not attempt any further adjustment. Unplug the set and call your dealer or service technician.

23 Whenever the television set is damaged or fails, or a distinct change in performance indicates a need for service, unplug the set and have it checked by a professional service technician.



24 It is normal for some TV sets to make occasional snapping or popping sounds, particularly when being turned on or off. If the snapping or popping is continuous or frequent, unplug the set and consult your dealer or service technician.

FOR SERVICING AND MODIFICATION

25 Do not use attachments not recommended by the television set manufacturer as they may cause hazards.
26 When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

27 Upon completion of any service or repairs to the television set, ask the service technician to perform routine safety checks to determine that the television is in safe operating condition.

PICTURE CAUTIONS

WARNING

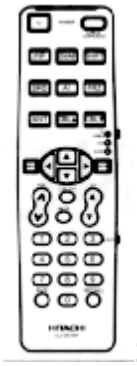
Continuous on-screen displays such as video games, stock market quotations, computer generated graphics, and other fixed (non-moving) patterns can cause permanent damage to projection television receivers. Such "PATTERN BURNS" constitute misuse and are NOT COVERED by your Hitachi Factory Warranty.

When using the Picture-in-Picture function, the sub-picture should not be left permanently in one corner of the screen or a "pattern burn" may develop over a long period of time.

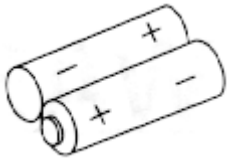
This projection television receiver was intended mainly for the private viewing of programs broadcast by TV stations and cable companies and programs from other video sources. Public viewing may require prior authorization from the broadcaster or owner of the video program.

ACCESSORIES

Check to make sure you have the following accessories before disposing of the packing material.



1.



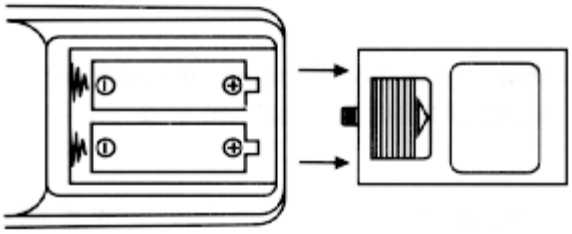
2.

1. Remote Control Unit CLU-951MP (part No. HL00211)
2. Two "AA" size, 1.5 V batteries (For Remote Control Unit)

REMOTE CONTROL BATTERY INSTALLATION AND REPLACEMENT

1. Open the battery cover of the remote transmitter by pushing the notched part of the cover with your fingers.
2. Insert two new "AA" size batteries equivalent for the remote. When replacing old batteries, push them towards the springs and lift them out.
3. Match the (+) and (-) marks in the battery compartment.
4. Replace the cover.

BOTTOM VIEW



HOW TO SET UP YOUR NEW HITACHI PROJECTION TV

ANTENNA

Unless your TV is connected to a cable TV system or to a centralized antenna system, a good outdoor color TV antenna is recommended for the best performance. However, if you are located in an exceptionally good signal area that is free from interference, and multiple image ghosts, an indoor antenna may be sufficient.

LOCATION

Select an area where sunlight or bright indoor illumination will not fall directly on the picture screen. Also, be sure that the location selected allows free flow of air to and from the perforated back cover of the set.

To avoid cabinet warping, cabinet color changes, and increased chance of set failure, do not place the TV where temperatures can become excessively hot. For example, in direct sunlight or near a heating appliance, etc.

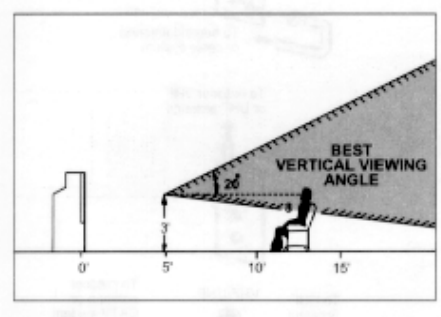
VIEWING

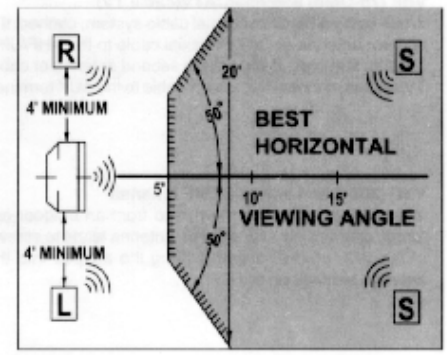
The major benefit of the HITACHI Projection Television is its large viewing screen. To see this large screen at its best, test various locations in the room to find the best spot for viewing. The drawings give several suggestions.

The best picture is seen by sitting directly in front of the TV and about 10 to 18 feet from the screen. Picture brightness decreases as the viewer moves to the left or right of the receiver.

During daylight hours, reflections from outside light may appear on the screen. If so, drapes or screens can be used to reduce the reflection or the TV can be located in a different section of the room.

If the TV's audio output will be connected to a Hi-Fi system's external speakers, the best audio performance will be obtained by placing the speakers equidistant from each side of the receiver cabinet and as close as possible to the height of the picture screen center. For best stereo separation, place the external speakers at least 4 feet from the side of the TV. Place the surround speakers to the side or behind the viewing area. Differences in room sizes and acoustical environments will require some experimentation with speaker placement for best performance.





CAUTION: The magnetic field of external speakers may cause the TV picture to

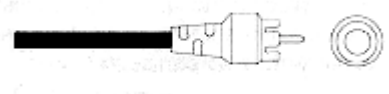
distort if the speakers are placed too close to the television. Move the speakers away from the TV until there is no picture distortion.

HOOK-UP CABLES AND CONNECTORS

Most video/audio connections between components can be made with shielded video and audio cables that have phono connectors. For best performance, video cables should use 75-Ohm coaxial shielded wire. Cables can be purchased from most stores that sell audio/video products. Below are illustrations and names of common connectors.

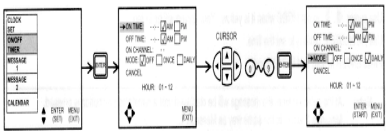
Before purchasing any cables, be sure of the output and input connector types required by the various components. Also make sure the cables are the correct length.

300-Ohm Twin Lead Connector
This outdoor antenna cable must be connected to an antenna adaptor (300-Ohm to 75-Ohm).



Phono Connector
Used on all standard video and audio cables which connect to inputs and outputs located on the Television's rear jack panel and front control panel.

"F" Type 75-Ohm Coaxial Antenna Connector
For connecting RF signals (antenna or cable TV) to the antenna jack on the television.

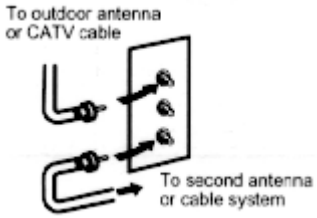


S-Video (Super Video) Connector

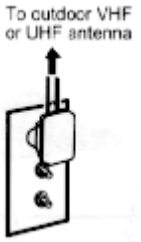
This connector is used on camcorders, VCRs, and laser disc players with an S-Video feature in place of the standard video cable to produce a high-quality picture.

ANTENNA CONNECTIONS TO REAR JACK PANEL

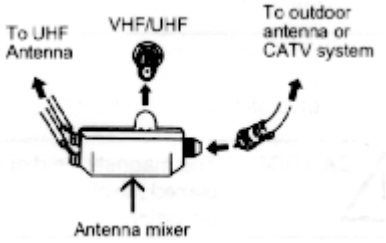
VHF (75-Ohm) antenna/CATV(cable TV)
When using a 75-Ohm coaxial cable system, connect the outdoor antenna or CATV coaxial cable to the VHF/UHF 75-Ohm terminal. If you have a second antenna or cable TV system, connect the coaxial cable to the AUX terminal.



VHF (300-Ohm) antenna/UHF antenna
When using a 300-Ohm twin lead from an outdoor antenna, connect the VHF or UHF antenna leads to screws of the VHF or UHF adaptor. Plug the adaptor into the antenna terminal on the TV.



When both VHF and UHF antennas are connected
Attach an optional antenna cable mixer to the TV antenna terminal, and connect the cables to the antenna mixer. Consult your dealer or service store for the antenna mixer.



FRONT PANEL CONTROLS

Click to see front panel diagram.

MENU BUTTON

This button allows you to enter the MENU mode without using the remote. It makes it possible to set TV features to your preference, without using the remote.

AVX (Audio/Video) selector/ENTER button

Press this button to select the current antenna source, VIDEO: 1, 2, or 3. Your selection is shown in the top right corner of the screen. This button also serves as the ENTER button when in MENU mode.

VOLUME level

Press these buttons for your desired sound level. The volume level will be displayed on the TV screen. These buttons also serve as the cursor left and right buttons when in MENU mode.

CHANNEL selector

Press these buttons until the desired channel appears in the top right corner of the TV screen. These buttons also serve as the cursor up and down buttons when in MENU mode.

POWER button

Press this button to turn TV on or off.

POWER light

You will see a red light when the TV is turned on.

NOTE: Your HITACHI TV will appear to be turned "off" if there is no video input when VIDEO: 1, 2, or 3 is selected. Check the POWER Light to make sure the TV is off when not in use.

AI (Artificial Intelligence) sensor

This "Artificial Intelligence" sensor will make automatic picture adjustments depending on the amount of light in the room to give the best picture. (See page 38)

REMOTE CONTROL sensor

Point your Remote at this area when selecting channels, adjusting volume, etc.

1 MAGIC FOCUS

Use this button to adjust your picture quality to optimum performance. (See page 39)

ADJUSTMENT MODE button

This button is for service technicians only. DO NOT press this button. If this button is accidentally pressed, please turn off your television using the front panel power button. Your TV will operate normally when you turn it on again.

FRONT INPUT JACKS (for VIDEO :3)

Use these audio/video jacks for a "quick" hook-up from a camcorder or VCR to instantly view your favorite show or new recording. (Press the AVX button until VIDEO: 3 appears in the top right corner of the TV screen.)

FRONT PANEL JACKS AND CONNECTIONS

The front panel jacks are provided as a convenience to allow easily connect a camcorder or VCR:

NOTE: Completely insert connection cord plugs when connecting to front panel jacks. If you do not, the played back picture may be abnormal. If you have a S-VHS VCR, use the S-INPUT cable in place of the standard video cable.

REAR PANEL JACKS

Click to see Rear Panel Jacks.

Antenna Input / Output

The "ANT" button on the remote control allows you to switch between two separate 75-Ohm RF antenna inputs, Main (VHF/UHF) and Auxiliary (AUX). The antenna output labeled "To converter" allows the Main (VHF/UHF) antenna connection to pass directly to a different source such as a pay-TV cable decoder.

Audio/Video Inputs 1, 2

The "AVX" (Auxiliary Video) button will step through each video source and the current antenna input each time it is pressed. Use the audio and video inputs to connect external devices, such as VCRs, camcorders, laser disc players, etc. (If you have mono sound, insert the audio cable into the left channel jack.)

Monitor Out

These jacks provide fixed audio and video signals which are used for recording.

Audio to Hi-Fi

These jacks provide variable audio output to a separate stereo system amplifier. With this connection, the audio to the stereo can be controlled by the television's remote control. Use these jacks for the SURROUND Left and Right channels. (See page 15)

Transmitter Out

These jacks provide variable audio output to a set of wireless speakers. They can also be used for another stereo system amplifier. With this connection, the audio can be controlled by the television's remote control.

Rear Speaker Terminals

These terminals are used to connect external speakers, which are used for the surround sound feature. The volume level is controlled by the remote control main volume buttons and also by an independent rear volume feature found in the "sound" function menu. Use speakers with 8 Ohm impedance only.

S-Video

Input 1 provides S-Video (Super Video) jacks for connecting equipment with S-Video output capability.

REAR PANEL CONNECTIONS

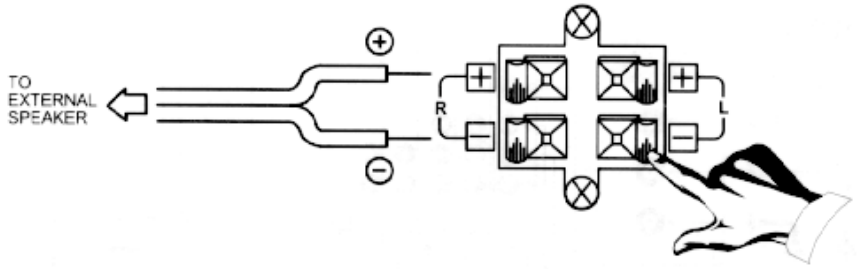
Typical full-feature set-up. Follow connections that pertain to your personal entertainment system.

REAR SPEAKER TERMINAL CONNECTIONS

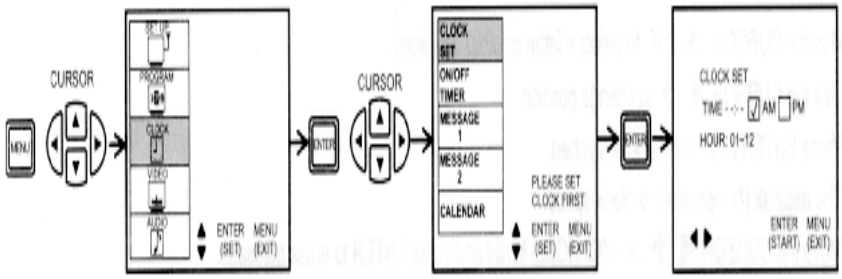
Connect after turning the power to the TV OFF.

Press the Right Speaker red button and insert the positive (+) lead wire into the hole below the button. When the button is released, the wire is locked into place. In the same manner, press the Right Speaker black button and insert the negative (-) lead wire. Repeat this procedure for the Left Speaker.

CAUTION: Do not short speaker terminals, (do not connect a wire directly across any two terminals). This could cause damage to your audio outputs or damage your TV in other ways.



CAUTION: Do not connect Speakers simultaneously to the REAR SPEAKER terminal of the Projection TV and an external amplifier. This could damage both the TV and the speakers. Your TV was designed to use 8 Ohm speakers only. Any other type may degrade the audio performance of your entertainment system.



TIPS ON REAR PANEL CONNECTIONS

The S-Video connection is provided for high performance laser discs, VCRs, etc., that have this feature. Use this connection in place of the standard video connection if your device has this feature.

If your device has only one audio output (mono sound), connect it to the left audio jack on the TV.

Refer to the operating guide of your other electronic equipment for additional information on connecting your hook-up cables.

A single VCR can be used for VCR#1 and VCR#2, but note that a VCR cannot record its own video or line output (INPUT: 1 in the example on pg. 13). Refer to your VCR operating guide for more information on the "line" input-output connections.

AUDIO SYSTEM SET-UP

Match the numbers below to the diagram for speaker placement and refer to the table for the surround sound requirements. (See page 43 for SURROUND functions.)[2] *ACTUALLY PAGE 42*

The television's internal speakers.
The television's internal center channel speaker, which is on only when the television is in SURROUND-DOLBY PRO LOGIC mode.
These speakers are connected to a separate audio amplifier. Use the "Audio to Hi-Fi" output on the TV.
These speakers are connected to the Rear Speaker 8 Ohm output on the TV.
These speakers are controlled by a wireless speaker transmitter. Use the "TRANSMITTER OUT" output on the TV.

Click to see Audio System Set-Up

* If optional left and right speakers are connected ( ), the internal speakers ( ) may be turned off for better separation between left, center, and right channels. The center channel audio will be heard from .

THE REMOTE CONTROL (CLU-951MP)

In addition to controlling all the functions on your HITACHI Projection TV, the new remote is designed to operate different types of VCRs, CATV (Cable TV) converters

and Audio equipment with one touch. Basic operation keys are grouped together in one area. All other controls are separated from them and arranged in MULTI-PAGE sections, with a display that can be switched to cover any of three pages. Functions are arranged and properly categorized into windows, making operation simple when multiple functions are to be controlled.

To operate your TV, point the remote at the remote sensor of the TV and press the TV POWER button.

To operate your VCR, point the remote at the remote sensor of the VCR. Slide the MULTI-PAGE select switch to VCR and press the VCR POWER button to turn on the VCR power. The remote will now control your VCR. (See page 23 for instructions on how to program the remote to control your VCR.)

To operate your Cable Box, point the remote at the remote sensor of the Cable Box. Slide the MULTI-PAGE select switch to TV/CABLE and press the CABLE POWER button to turn on the cable box power. The remote will now control your Cable Box. (See page 24 for instructions on how to program the remote to control your Cable Box.)

To operate your Audio Equipment, point the remote at the remote sensor of the audio component you would like to operate. Slide the MULTI-PAGE select switch to AUDIO and press the button which corresponds to the component you would like to control (AMP, CD, or TAPE). Press the AUDIO POWER button to turn on the audio component power. The remote will now control your audio equipment. (See page 25 for instructions on how to program the remote to control your audio equipment.)

Click to see the Remote

MULTI-PAGE select switch

This selects the button layout of the multi-page section of the remote control.

MULTI-PAGE buttons

These buttons change functions as shown on page 17.

, LIGHT BUTTON

When you are in a dark room, press this button on the side of the remote to light up the buttons shown in . The light will stay on for about 8 seconds if the light button is not pressed again. These buttons will not appear to light if the room is too bright.

HOW TO USE THE REMOTE TO CONTROL YOUR TV

TV POWER button

Press this button to turn the TV set on or off. If Message-1 or Message-2 is set, it will be displayed when the TV is first turned on. (See page 36)

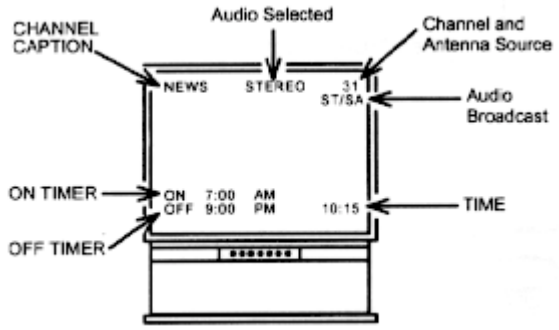
CABLE/VCR/AUDIO POWER button

Once the remote is programmed, press this button to control the power to your Cable Box, VCR, or Audio Equipment, depending on the button layout of the MULTI-PAGE section of the remote control, as chosen by the MULTI-PAGE select switch. (See pages 16, 23, 24, 25)

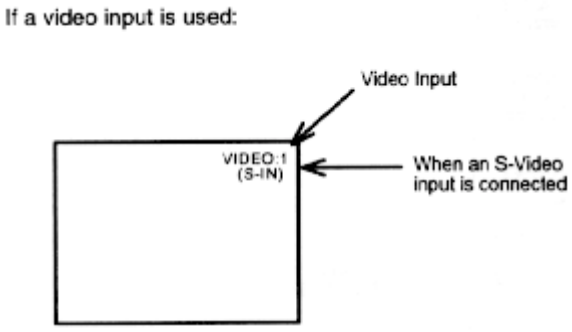
RECALL button

When you want to check the channel being received, or if it has a stereo (ST) or second audio program (SAP), press the RECALL button.

You can also check the time, and if the ON TIME or OFF TIME has been set. (See page 35)



If a video input is used:



You can also use the RECALL button to quickly clear many of the other on-screen displays.

Click to see the Remote.

ANT button

Use the ANT (Antenna) button to select between the VHF/UHF and AUX (Auxiliary) antenna inputs.

NOTE: When VHF/UHF is selected, the channel number in the upper right corner of the screen is green. When the AUX input is selected, the channel number is in yellow.

MENU, ENTER, CURSOR buttons

All the on-screen display features can be set or adjusted by using these buttons.
The "MENU" button will start or exit the on-screen display.
The "CURSOR" buttons will highlight functions or adjust different features.
The "ENTER" button will set features to your preference.

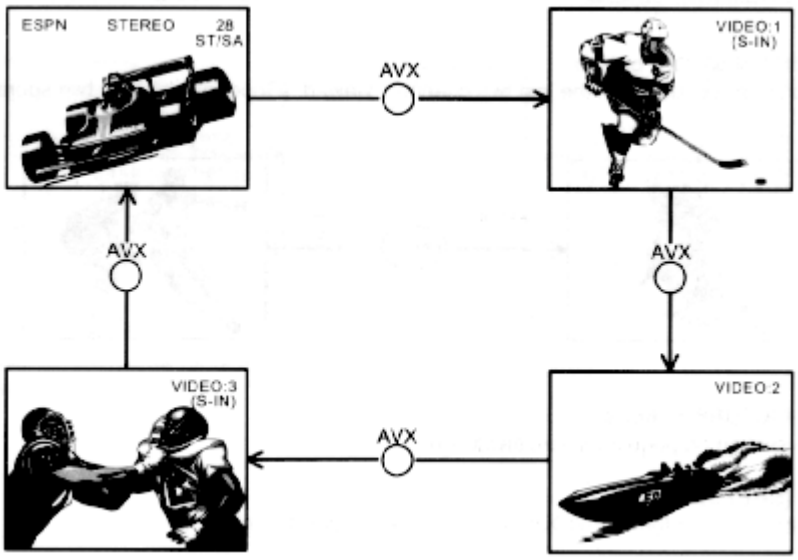
CHANNEL SELECTOR buttons

"CHANNEL SELECTOR" buttons are used to set the time, for channel memory, etc..
Channel selection may also be performed by pressing channel up (▲) or down (▼).

NOTE: The TV may not receive some channels if you are not in the correct AIR/CABLE mode. (See page 29)

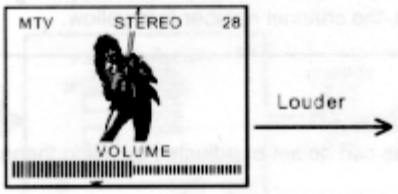
AVX button

The AVX (Auxiliary Video) button will select between the antenna signal and the three sets of video input jacks each time the button is pressed. If the Picture-in-Picture (PIP) is on, the AVX will select between the three sets of video input jacks. (See page 21)

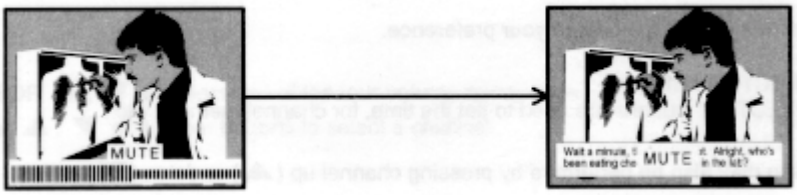


VOLUME, MUTE buttons

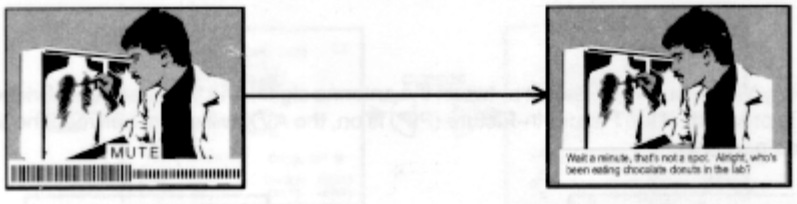
Press the "VOLUME" up (▲) or down (▼) button until you obtain the desired sound level. To turn the sound off instantly to answer the telephone, etc., press the "MUTE" button. Press the "MUTE" button again or press the "VOLUME" up (▲) button to restore the sound.



The word "MUTE" will remain displayed if the CLOSED CAPTION feature is turned off. CLOSED CAPTION will also be displayed when the "MUTE" button is pressed.

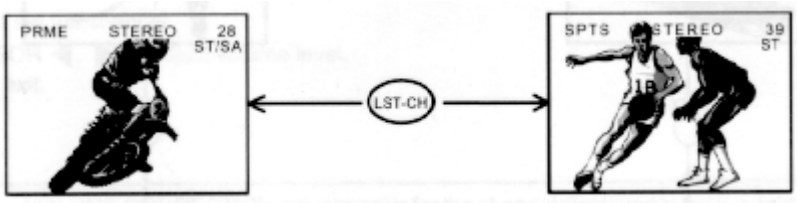


The word "MUTE" will not be displayed if the CLOSED CAPTION feature is on.



LAST CHANNEL (LST-CH) button

Use this button to select between the last two channels viewed. (Good for watching two sporting events, etc.)



PICTURE-IN-PICTURE buttons

See separate section on page 21 for a description.

SURROUND (SRD) button

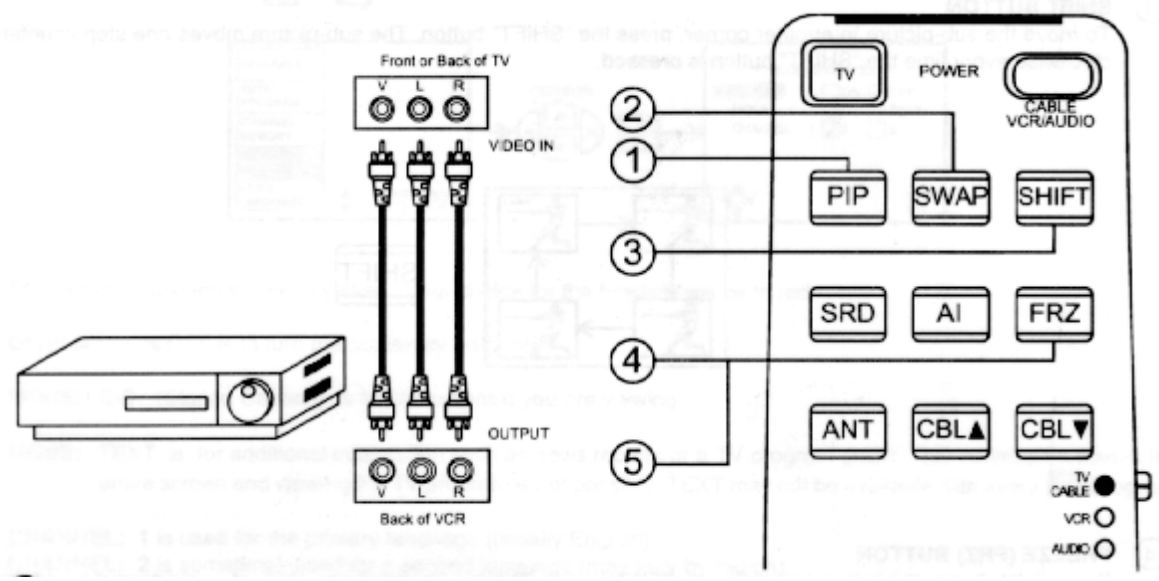
Press this button to enter the SURROUND menu. (See pages 15 and 42.)

ARTIFICIAL INTELLIGENCE (AI) button

Press this button to turn the AI function on or off. (See page 38)

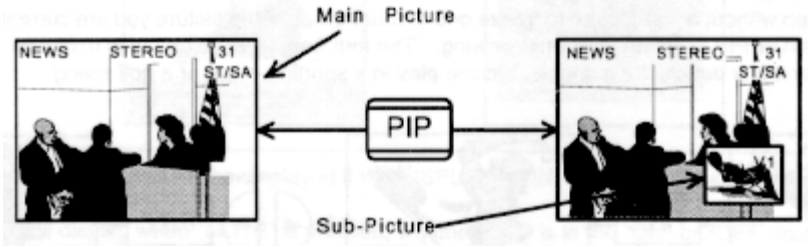
PICTURE-IN-PICTURE (PIP)

The Picture-in-Picture feature is convenient when you want to watch more than one program at the same time. You can watch a TV program while viewing a VCR program (TV or tape) on any of the video inputs.



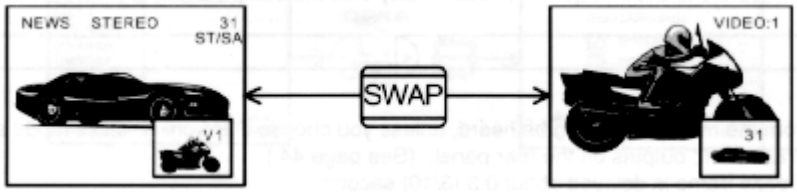
PIP BUTTON

Press the "PIP" button and a sub-picture appears in one corner of the screen. Press the button a second time to remove the sub-picture from the screen. Press the AVX button when the sub-picture is on to change between VIDEO: 1, VIDEO: 2 and VIDEO: 3. The TV channel will always be either the main picture or the sub-picture.



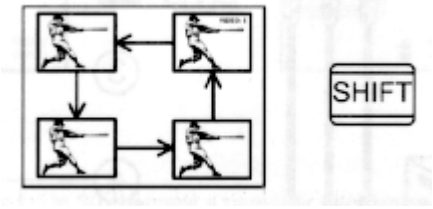
SWAP BUTTON

If you wish to switch what is being shown on the main picture to the sub-picture, press the "SWAP" button.



SHIFT BUTTON

To move the sub-picture to another corner, press the "SHIFT" button. The sub-picture moves one step counter-clockwise every time the "SHIFT" button is pressed.

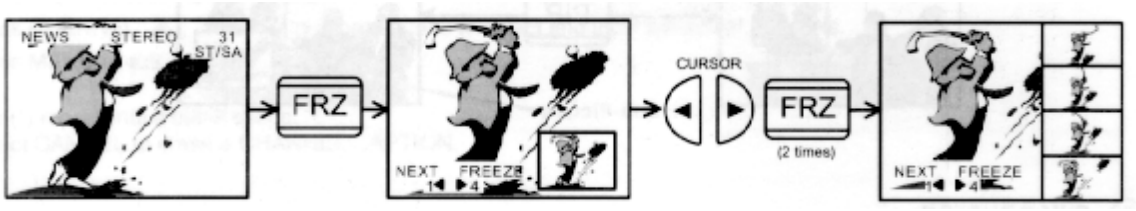


FREEZE (FRZ) BUTTON

If you wish to freeze the sub-picture, press the "FRZ" button. This is convenient when trying to write down the address for a mail order company, recording statistics for a sporting event, etc. To return the picture to motion, press the button again.

STROBE FREEZE

Press this button without a sub-picture to freeze one or four frames of the picture you are currently viewing. Press this button again or PIP to return to normal viewing. The four frame strobe freeze is useful for viewing a moving picture that has many details, for example, a close play in a sporting event or a golf swing.



CAUTION: A pattern burn may develop if the sub-picture is left in the same corner permanently. If the PIP feature is used frequently, occasionally shift the sub-picture to a different corner.

NOTE:
1. Only sound from the main picture can be heard, unless you choose PIP from wireless mode and use the
"TRANSMITTER OUT" outputs on the rear panel. (See page 44.)
2. Each strobe freeze frame is delayed about 0.3 (3/10) second.

USING THE REMOTE TO CONTROL VCR FUNCTIONS

Operating the pre-coded function for your VCR
This remote is designed to operate different types of VCRs. You must first program the remote to match the remote system in your VCR. (Refer to page 26)

1. Set the MULTI-PAGE select switch to "VCR".
2. Turn ON your VCR.
3. Aim the remote control at the front of your VCR.
4. While holding down the VCR POWER button on the remote, enter the 2 digit preset code that matches your VCR as shown on page 26. The remote will turn off your VCR when the correct 2 digit preset code is entered. When this occurs, the remote control is programmed for your VCR. If the VCR does not turn off after 5 seconds, try a different 2 digit preset code.
5. The remote will now control your VCR.

NOTES:
1. If your VCR cannot be operated after performing the above procedures, this means that your VCR's codes have not been precoded into the remote.
2. In the unlikely event that your VCR cannot be operated after performing the above

procedures, please consult your VCR operating guide.
3. The remote control will remember the codes you have programmed in until the batteries are removed from the remote control. After replacing the batteries repeat the entire programming procedure stated above.
4. If your VCR does not have a power function, the remote will issue the CHANNEL UP function.

PRECODED VCR BUTTONS

These buttons transmit the chosen precoded VCR codes.

EXCLUSIVE TV BUTTONS

These buttons are for operating the TV.

Click to see Remote.

USING THE REMOTE TO CONTROL CABLE BOX FUNCTIONS

Operating the pre-coded function for your cable box
This remote is designed to operate different types of cable boxes. You must first program the remote to match the remote system in your cable box. (Refer to page 26)

1. Set the MULTI-PAGE select switch to"TV/CABLE".
2. Turn ON your cable box.
3. Aim the remote control at the front of your cable box.
4. While holding down the CABLE POWER button on the remote, enter the 2 digit preset code that matches your cable box as shown on page 26. The remote will turn off your cable box when the correct 2 digit preset code is entered. When this occurs, the remote control is programmed for your cable box. If the cable box does not turn off after 5 seconds, try another 2 digit preset code.
5. The remote will now control your cable box.

NOTES:
1. If your cable box cannot be operated after performing the above procedures, this means that your cable box codes have not been precoded into the remote.
2. In the unlikely event that your cable box cannot operate after performing the above procedures, consult your cable box operating guide.
3. The remote control will remember the codes you have programmed in until the batteries are removed from the remote control. After replacing the batteries repeat the entire programming procedure stated above.
4. If your cable box does not have a power function, the remote will issue the CHANNEL

UP function.

PRECODED FOR CABLE BOX

These buttons transmit the chosen precoded CATV codes.

EXCLUSIVE TV BUTTONS

These buttons are for operating the TV.

Click to see Remote.

USING THE REMOTE TO CONTROL AUDIO EQUIPMENT FUNCTIONS

Operating the pre-coded function for your audio equipment
This remote is designed to operate different types of audio equipment. You must first program the remote to match the remote system in your audio equipment. (Refer to page 26)

1. Set the MULTI-PAGE select switch to"AUDIO".
2. Turn ON the audio component you wish to control with your remote (AMP, CD, or TAPE).
3. Aim the remote control at the front of your audio equipment.
4. While holding down the button on the remote which corresponds with the component you wish to control (AMP, CD, or TAPE), enter the 2 digit preset code that matches your audio component as shown on page 26. The remote will turn off your audio component when the correct 2 digit preset code is entered. When this occurs, the remote control is programmed for your audio component. If the audio component does not turn off after 5 seconds, try a different 2 digit preset code.
5. The remote will now control your audio component.
6. Repeat steps 2-5 until all audio equipment preset codes are programmed into the remote.

NOTES:
1. If your audio component cannot be operated after performing the above procedures, this means that your audio components codes have not been precoded into the remote.
2. In the unlikely event that your audio component cannot operate after performing the above procedures, consult your audio component operating guide.
3. The remote control will remember the codes you have programmed in until the batteries are removed from the remote control. After replacing the batteries repeat the entire programming procedure stated above.
4. If your audio component does not have a power function, the remote will issue another

obvious function that the audio component will respond to, such as CD open/close.
5. The default for AUDIO Mode is AMP.

PRECODED FOR AUDIO EQUIPMENT

These buttons transmit the chosen precoded AUDIO EQUIPMENT codes.

EXCLUSIVE TV BUTTONS

These buttons are for operating the TV.

Click to see Remote.

VCR AND CABLE BOX CODES

VCR BRAND	CODE	VCR BRAND	CODE
Adventura	00	Nikko	10
Aiko	50	Noblex	48
Aiwa	00	Olympus	09
Akai	14,23	Optimus	10,20
American High	09	Panasonic	09,35,46
Asha	48	Penny	09, 10, 11, 13, 15, 48
Audiovox	10	Pentax	15, 24
Beaumark	48	Philco	09
Bell and Howell	30	Philips	09, 28
Brocsonic	33, 37, 43	Pilot	10
Calix	10	Pioneer	26
Canon	09	Protec	27
Carver	28	Pulsar	12
CCE	27, 50	Quarter	18
Citizen	10, 50	Quartz	18
Colt	27	Quasar	09
Craig	10, 19, 27, 48	Radio Shack	00, 10
Curtis Mathes	09, 22	Radix	10
Cybernex	48	Randex	10
Daewoo	17, 50	RCA	15, 22, 24
Dynatech	00	Realistic	00, 09, 10, 18
Electrohome	10		19, 20, 30, 48
Electrophonic	10	Ricoh	08
Emerex	06	Runco	12
Emerson	00, 01, 10, 16, 23,	Samsung	17, 48
	33, 37, 40, 43	Sanky	12, 20
Fisher	19, 30	Sansui	14, 26
Fuji	07, 09	Sanyo	18, 19, 30, 48

Funai	00
Garrard	00
GE	09, 22, 24
Goldstar	10,11
Gradiente	00
Harley Davidson	00
Harmann/Kardon	11
Harwood	27
Headquarter	18
HI-Q	19
Hitachi	14, 15, 24
Jensen	14
JVC	14, 26
Kenwood	11, 14, 18, 26
KLH	27
Kodak	09, 10
Lloyd	00
Logik	27
LXI	10
Magnavox	09, 12, 28
Magnin	48
Marantz	09, 11, 28
Marta	10
Matsushita	09
MEI	09
Memorex	00, 09, 10, 12, 18, 19, 20, 30, 48
MGA	16, 23
MGN Technology	48
Minolta	15
Mitsubishi	16, 23, 26, 45
Motorola	09, 20
MTC	00, 48
Multitech	00, 27
NEC	11, 13, 14, 26
Scott	16, 17, 33, 37, 42, 43
Sears	09, 10, 15, 18, 19, 31
Sharp	20
Shintom	27
Shogun	48
Singer	27
Sony	06, 07, 08, 09
STS	15
Sylvania	00, 09, 16, 28
Symphonic	00
Tatung	14
Teac	00, 14
Technics	09, 35
Teknika	00, 09, 10
TMK	40, 48
Toshiba	16, 17, 42
Totevision	10, 48
Unitech	48
Vector	17
Vector Research	11, 13
Video Concepts	13, 17, 23
Videosonic	48
Wards	00, 09, 15, 19, 20, 27, 48
XR-1000	09, 27
XR 1000	00
Yamaha	11, 14
Zenith	07, 08, 12

CABLE BRAND	CODE
ABC	03, 05, 09, 11, 12, 14
Archer	40
Belcor	31
Cable Star	31
Century	40
Citizen	40
Contec	15
Garrard	40
GC Electronics	31
Gemini	13
General Instrument	09

AMP BRAND	CODE
Optimus	00, 01
Pioneer	00, 01
Technics	02

CD BRAND	CODE
Adcom	16
Aiwa	17
CA Audio Lab	06
Carver	17
Denon	04
Emerson	16

Hamlin	08, 16, 49, 50
Hitachi	09
Hytex	05
Jasco	40
Jerrold	03, 09, 10, 12, 13, 51
Memorex	00, 51
Movie Time	42
NSC	42
Oak	05, 15, 47
Panasonic	17
Paragon	00
Philips	40
Pioneer	39
Pulsar	00
RCA	17
Regal	16, 49, 50
Rembrant	09
Runco	00
Samsung	39
Scientific Atlanta	04, 06, 14, 52, 56
Signal	13
Signature	09
Sprucer	17
Standard Components	41
Starcom	03, 13
Stargate	13
Starquest	13
Tocom	10, 11, 33
Toshiba	00
Tusa	13
Unika	40
United Artists	05
United Cable	03
Universal	31, 40
Videoway	48
Zenith	00

Fisher	08, 11
Genexxa	07
Hitachi	07, 14, 15, 16, 21, 23, 24
JVC	10
Kenwood	05, 08, 19
Krell	17
Magnavox	17
Marantz	06, 17
MCS	06
Mission	17
NSM	17
Onkyo	13
Optimus	03, 07, 12
Panasonic	06
Philips	17
Pioneer	07, 12
Proton	17
Quasar	06
RCA	09, 16
Realistic	16
Rotel	17
SAE	17
Sansui	17
Scott	16
Sony	03, 18
Sylvania	17
Technics	06, 20, 22
Victor	10

TAPE BRAND	**CODE**
Hitachi	56, 57, 61, 62
JVC	59
Kenwood	55
Optimus	54
Panasonic	60
Pioneer	54
Sony	58
Wards	54

These are additional codes not listed in the manual:

AMPLIFIER	**CODES**
Carver	51
Magnavox	51
Marantz	51
Optimus	00, 01

MISC AUDIO	**CODES**
Aiwa	25, 26
Jerrold	53, 55
Scientific Atlanta	54
Sony	25, 26

Philips	51
Pioneer	00, 01
Technics	02

SATELLITE	**CODES**
Wards	00

AUDIO RECEIVER	**CODES**
Aiwa	34, 40
Carver	28, 32, 40
Casio	41
Clarinette	41
Denon	27
Fisher	32, 43
Hitachi	44
JVC	33
Kenwood	30, 39, 47, 48
Lloyd's	41
Magnavox	40, 41
Marantz	31, 40
MCS	31
Modulaire	41
Onkyo	35
Optimus	34, 39, 43
Panasonic	31
Penney	41
Starcom	53

General Instrument	64
Jerrold	64, 65
Primestar	64, 65
RCA	60
Sony	66

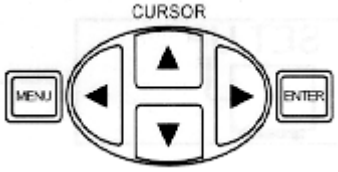
AUDIO RECEIVER (cont.)	**CODES**
Philips	40
Pioneer	29, 34, 45
Quasar	31
Realistic	41
Sansui	40
Sanyo	43
Sharp	39
Sony	37
Technics	31, 42, 46, 50
Victor	33
Wards	29, 32, 34, 37, 40
Yamaha	38, 39
Yorx	41

EASY GRAPHIC GUIDE

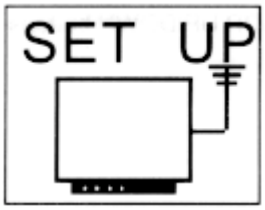
Press MENU on the remote control to display the different features on your HITACHI TV. The feature to be selected will be highlighted in yellow, the buttons to choose your selection will be highlighted in blue, and the selection you have chosen will be highlighted in red.

Press the CURSOR buttons to highlight a different feature.

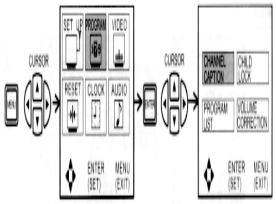
Press ENTER on the remote control to select a feature.



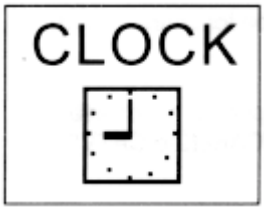
Click to see sample screen of Easy Graphic Guide.



AIR/CABLE Select antenna or cable TV.
AUTO PROGRAM First time setup for channel buttons.
CHANNEL MEMORY Channel buttons, add or skip.
CLOSED CAPTION Feature to display dialogue/text.
MENU LANGUAGE Choose English, French or Spanish dialogue.



CHANNEL CAPTION Label channels PAY1, ABC, etc.
CHILD LOCK Block channel picture & sound.
PROGRAM LIST Check channel name, scan, child-lock.
VOLUME CORRECTION Lower volume on selected channels.

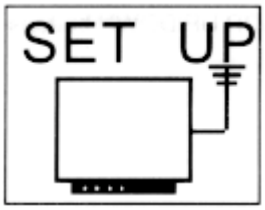


CLOCK SET Set before using timer features.
ON/OFF TIMER Turn TV on or off one time or daily.
MESSAGE 1 Set for one time or daily.
MESSAGE 2 Set for one time or daily.
CALENDAR Check day, month and year.

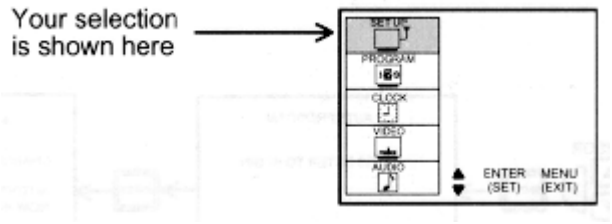
PREFERENCE ADJUST Adjust color, brightness, etc..
PREFERENCE SETTING Improve picture performance.
CONVERGENCE CORRECTION Match red, green, and blue colors to make white.

PREFERENCE ADJUST Adjust balance, bass, and treble.
PREFERENCE SETTING Improve sound performance.
SURROUND Special sound effects.
WIRELESS MODE Adjust audio output for wireless speakers.

SET UP



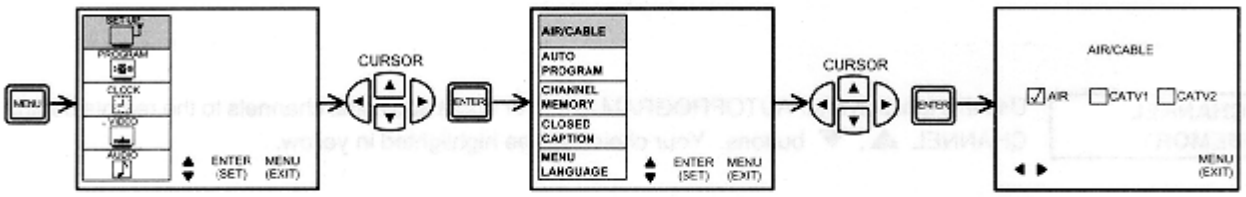
Select SET UP when setting your TV up for the first time. Use the CURSOR UP/DOWN buttons on the remote to highlight the function desired.



NOTE: To see an auto-demonstration of the on-screen display, press and hold the POWER button on the TV set for approximately 5 seconds. Press the POWER button on the TV again to end the auto-demonstration.

AIR/CABLE

Select AIR if you are using an indoor or outdoor antenna. Select CATV if you have cable TV.
Press the CURSOR buttons to highlight the correct AIR/CABLE mode and press MENU to exit.
Your choice will be shown on the display.

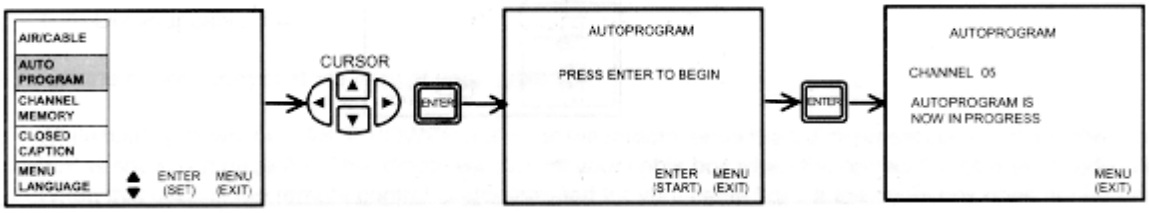


RECEPTION BAND		
AIR	CATV 1 or CATV 2	
	CATV CHANNEL	Indicated on the screen
VHF 2 ~ 13ch UHF 14 ~ 69ch	VHF 2 ~ 13	2 ~ 13
	Mid band A ~ I A-5 ~ A-1	14 ~ 22 95 ~ 99
	Super band J ~ W	23 ~ 36
	Hyper band W + 1 ~ W + 28	37 ~ 64
	Ultra band W + 29 ~ W + 84	65 ~ 125

Reception channels for each mode are shown at the left.
Refer to your cable or TV guide for channel identification standards.
If certain CATV channels are poor or not possible in the CATV1 mode, set AIR/CABLE to CATV2.

AUTO PROGRAM

This feature will automatically store active TV channels in CHANNEL MEMORY. This will allow you to skip over unused channels when using the CHANNEL UP (▲) or DOWN (▼) buttons.



If the MENU button is pressed while the auto programming function is engaged, programming will stop. If two antennas are connected, switch antenna inputs with the ANT button and repeat auto programming for the second antenna input.

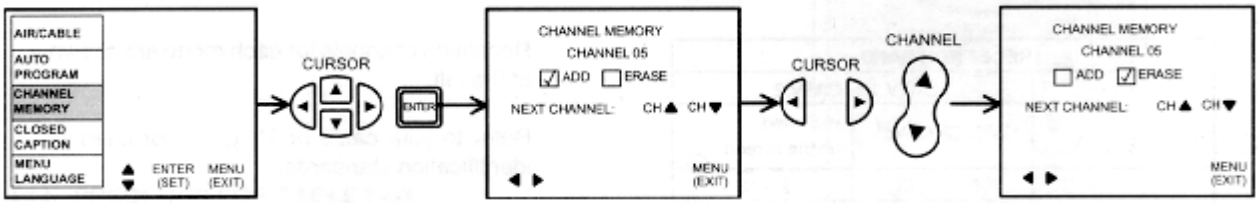
Remember to select the correct AIR/CABLE mode before using auto programming for the second antenna input.

See CHANNEL MEMORY to add or erase additional channels.

CHANNEL MEMORY

Use this function after AUTOPROGRAM to add or erase additional channels to the

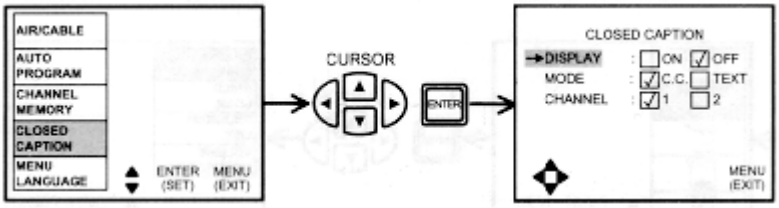
remote control CHANNEL (▲), (▼) buttons. Your choice will be highlighted in yellow.



Add or erase additional channels while still in CHANNEL MEMORY using the CHANNEL ▲, ▼ buttons or number buttons and then add or erase using the CURSOR , ▶ buttons.

CLOSED CAPTION

[3]Closed captions are the dialogue, narration, and/or sound effects of a television program or home video which are displayed on the TV screen. Your local TV program guide denotes these programs as CC or .



The selected function will be in yellow. Your choice for the function will be in red.

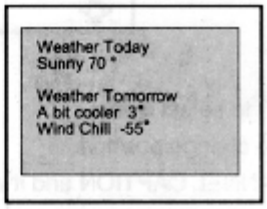
DISPLAY: ON/OFF is to turn the cc display on or off.

MODE: C.C. (Closed Caption) is for the program you are viewing.

MODE: TEXT is for additional information such as news reports or a TV program guide. This information covers the entire screen and viewing the TV program is not possible. TEXT may not be available with every CC program.

CHANNEL: 1 is used for the primary language (usually English).
CHANNEL: 2 is sometimes used for a second language (may vary by region).

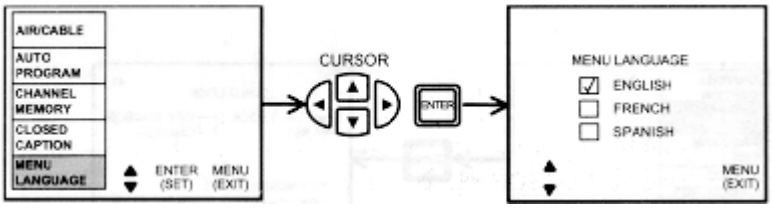
Use the CURSOR ▲ or ▼ to highlight the function to change, press ENTER to change the function, and press MENU to exit.



NOTE: The word MUTE will not be displayed if the DISPLAY is ON. If you do not have sound, make sure MUTE is not set.
CCD will display when "MUTE" is pressed, whether CCD is in the "ON" or "OFF" mode.

MENU LANGUAGE

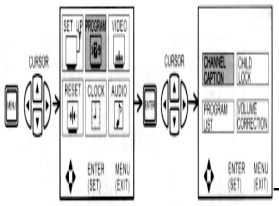
This feature will allow you to select any one of 3 different languages for all on screen displays.



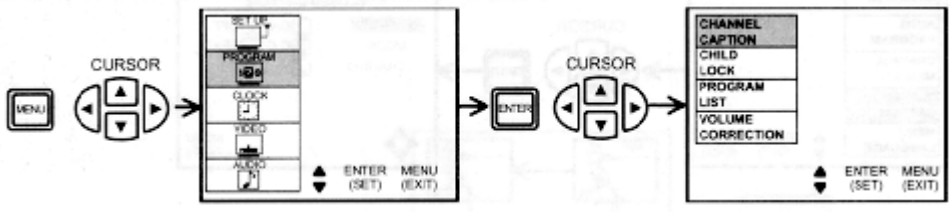
Use the cursor ▲, ▼ buttons to select the MENU LANGUAGE of your choice.

Press MENU to exit.

PROGRAM

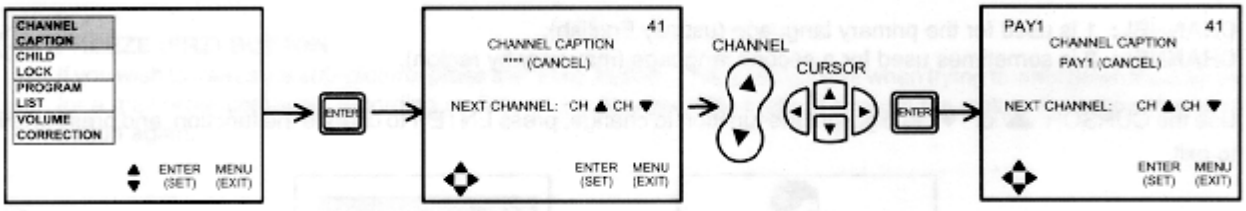


This selection contains advanced features which will make TV viewing easier and more enjoyable.



CHANNEL CAPTION

[4]Use this feature to give up to 30 channels a name for each antenna source.

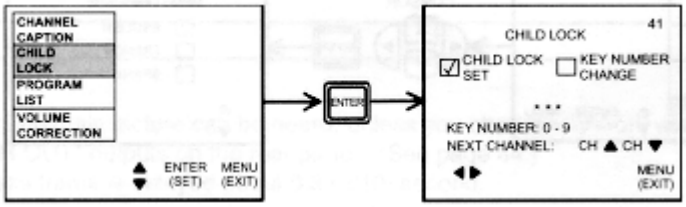


Press the CURSOR ▲, ▼ to select letters.
Press the CURSOR ◀, ▶ to change position.
Press ENTER to set the CHANNEL CAPTION and it will appear in the top left corner of the screen.
Press CHANNEL ▲, ▼ or the number buttons to select and label additional channels.
Press MENU to exit.

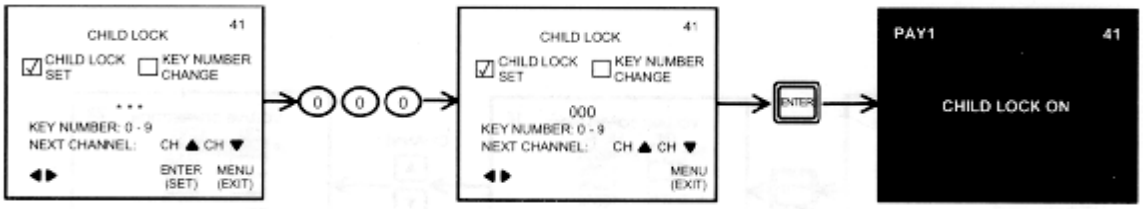
The (*) represents a blank space.
Select CANCEL to erase a CHANNEL CAPTION.

[5]CHILD LOCK

This function will block out the picture and sound of the selected channel.



The code to set or cancel CHILD LOCK is a three digit key number. The factory preset key number is 000.



The picture and sound will now be blocked out for this channel. Repeat the same steps to cancel the CHILD LOCK.

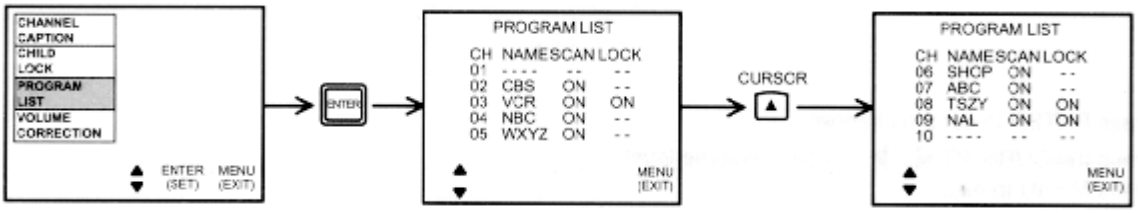
To change the key number, select key number change. Enter the old number (factory preset 000 for first time use), then enter a new three digit key number you prefer.

If you forget your key number, use the factory code 777 to erase your key number. This will reset the key number back to the factory preset 000.

PROGRAM LIST

This function allows you to view which channels are labeled in CHANNEL CAPTION

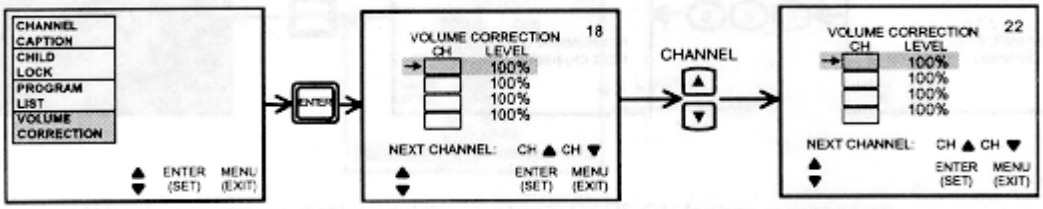
(NAME), which have been added to CHANNEL MEMORY (SCAN), and which are protected by CHILD LOCK (LOCK).



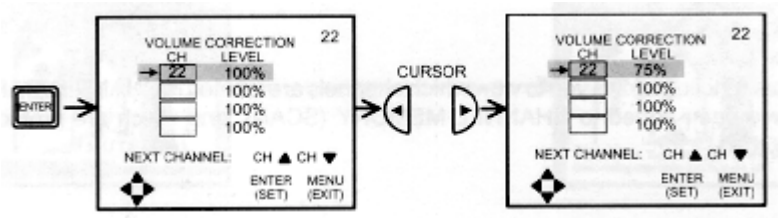
Press CURSOR ▲, ▼ to review more channels.
Press MENU to exit.

VOLUME CORRECTION

Use this function to reduce the volume level of up to four TV channels that sound loud compared to other TV channels.



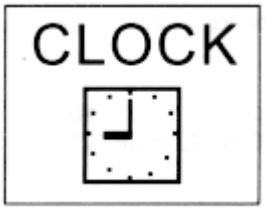
Press the CURSOR ▲, ▼ to select one of the four volume corrections.
Use the Channel ▲, ▼ or number buttons to select a channel.



Press ENTER to set the channel.
Press the CURSOR ◀, ▶ to adjust volume level.
Press MENU to exit.

NOTE:
1. VOLUME CORRECTION adjustment is for the channel displayed in the top right corner of the screen. To adjust a different channel, you must select the channel with the channel or number buttons and press ENTER.
2. If the channel has been corrected before, use the cursor ▲, ▼ to highlight that channel then use the cursor ◀, ▶ to change the level.
3. To erase a channel from the volume correction, select channel 00 and press ENTER.
4. The volume level will change from 50% to 100% in 5% steps.

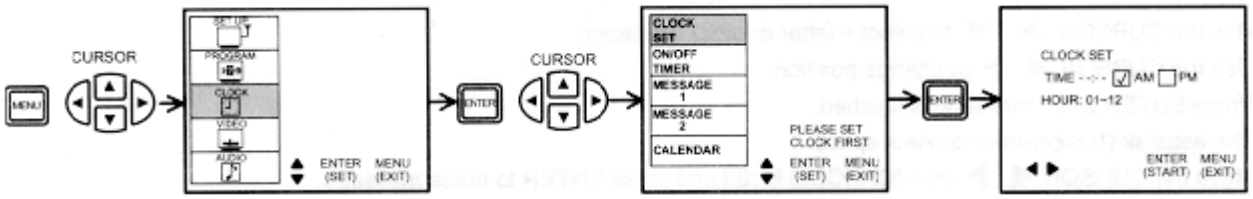
CLOCK



Use this feature for all time related function.

CLOCK SET

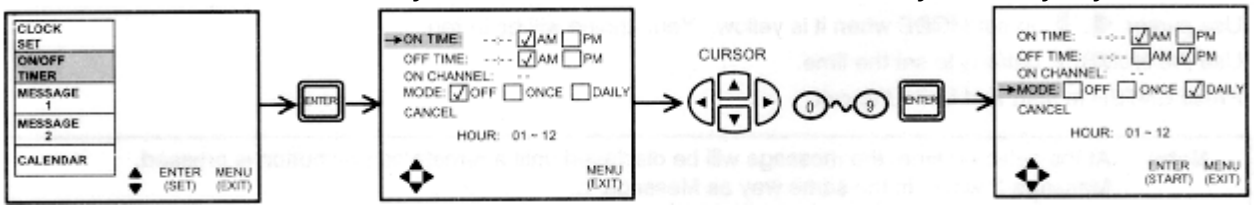
The time must be set before you can use the on/off timer or automatic message.



Use the NUMBER buttons and CURSOR , ▶ to set the time.
The AM or PM selected will be highlighted in red.

ON/OFF TIMER

This function will automatically turn the TV on or off, one time only or everyday.



The selection to change will be in yellow.
Press the number buttons to select the time the TV will turn on or off. (AM: 1, PM: 2)
Press the CURSOR , ▶ buttons for MODE: ONCE (one time only) or MODE: DAILY (TV will turn on/off at the same time every day).
Press CHANNEL ▲, ▼ or the NUMBER buttons to set the channel the TV will tune to when it automatically turns on.

Your choice for AM/PM and MODE will appear in red.
Press ENTER to start.
Select CANCEL and press ENTER to erase times.

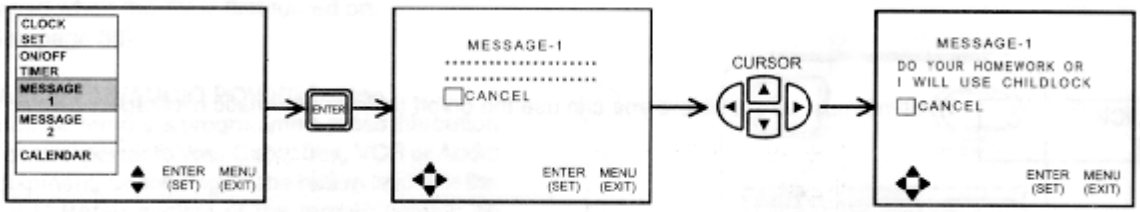
NOTE: You can set either ON TIME only, OFF TIME only, or both. The mode will be the

same for both.

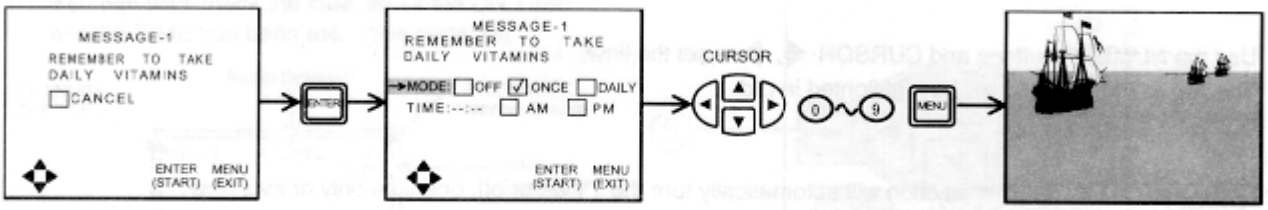
CAUTION: Do not use your TV as a deterrent when away from home by using both the ON and OFF TIMERS. For safety, the TV should be turned off when you are away from home.

MESSAGE-1

Use this function to set one or two personal message once a day or one time only.



Use the CURSOR ▲, ▼ to select a letter or other character.
Use the CURSOR , ▶ to change position.
Press ENTER when message is finished.
The asterisk (*) represents a blank space.
Move the CURSOR , ▶ until (CANCEL) is red and press ENTER to erase message.

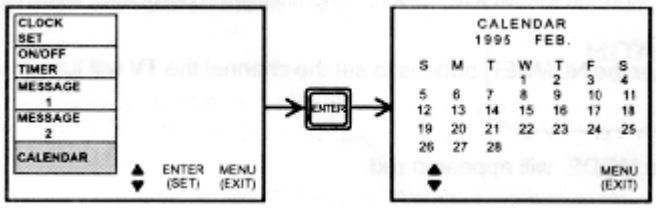


Use CURSOR ▲, ▼ to choose MODE or TIME.
Use CURSOR , ▶ to set MODE when it is yellow. Your choice will be in red.
Use the NUMBER buttons to set the time.
Press ENTER to start and MENU to exit.

Note: At the selected time, the message will be displayed until a remote control button is pressed. Message-2 works in the same way as Message-1.

CALENDAR

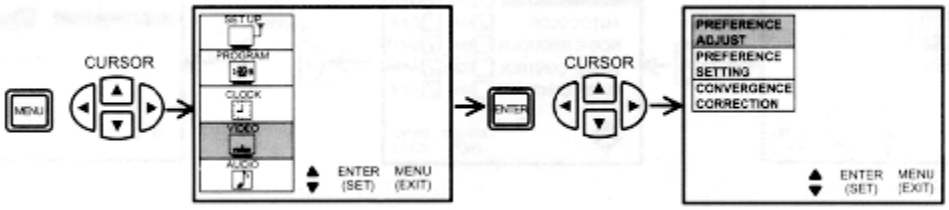
Use this function to check the day, month and year.



Use the CURSOR ▲, ▼ buttons to change the month.
Press MENU to exit.

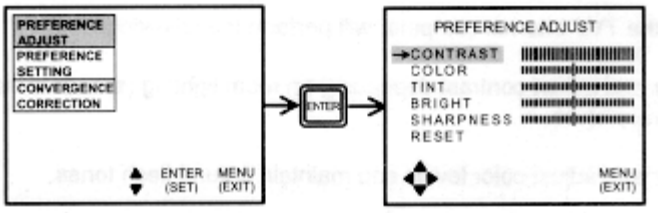
VIDEO

Select VIDEO to adjust picture settings, improve picture quality and to adjust convergence.



PREFERENCE ADJUST

Use this feature to adjust contrast, color, tint, brightness and sharpness.



Press the CURSOR buttons to select and make adjustments.
The function to be adjusted will be in yellow.

CONTRAST- Use this function to change the contrast between black and white level in the picture. This adjustment will only affect the picture when the PICTURE SETTING AI is OFF. (See page 38)

COLOR- Use this function to adjust the level of color in the picture.

TINT- Use this function to adjust flesh tones so they appear normal.

BRIGHT- Use this function to adjust overall picture brightness.

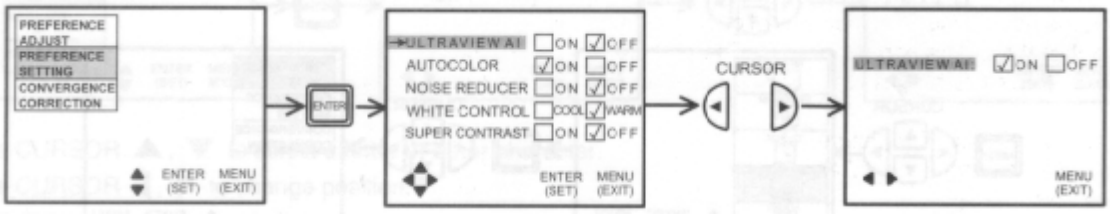
SHARPNESS- Use this function to adjust the amount of fine detail in the picture.

RESET- When RESET is selected, press ENTER to return video adjustments to factory preset conditions.

PREFERENCE ADJUST

Your HITACHI TV has an AI (Artificial Intelligence) function which will automatically adjust picture settings to produce the highest quality picture possible.

When AI is yellow, use the CURSOR , ▶ to turn the AI on or off. Your choice will be in red.



Use the CURSOR ▲, ▼ to select function.

Use the CURSOR , ▶ to turn function on or off. Your choice will be in red.

AI (ARTIFICIAL INTELLIGENCE)

When the AI function is on, the TV's internal computer will perform the following:

1. Automatically monitor and adjust contrast depending on room lighting (sensor is located in the front panel), to produce a more natural picture.
2. Automatically monitor and adjust color levels and maintain natural flesh tones.
3. Automatically compensate for weak or strong TV signals to produce a clear picture.

Turn the AI function off to control other PREFERENCE SETTINGS.

AUTOCOLOR

The AUTOCOLOR function automatically monitors and adjusts the color to maintain constant color levels even after a program or channel changes. It also maintains natural flesh tones while preserving fidelity of background colors.

For best picture performance leave the AUTOCOLOR function on.

NOISE REDUCER

The NOISE REDUCER automatically reduces conspicuous noise in the picture without degrading picture quality.

WHITE CONTROL

Change the look of the picture by adding either more or less blue to the picture.

SUPER CONTR (SUPER CONTRAST)
Turn on SUPER CONTR to improve picture detail in areas of high brightness.

CONVERGENCE CORRECTION

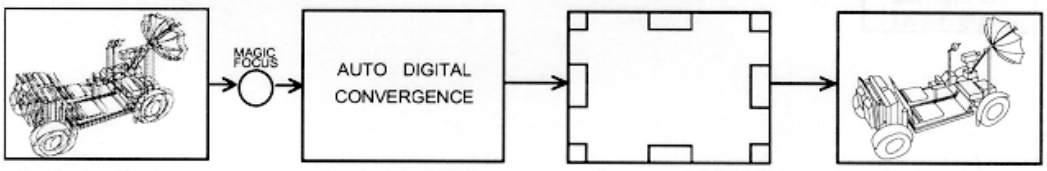
Your Projection TV has three color projection tubes: one for red, one for green, one for blue. When mixed together in the proper proportion, the output of these three color tubes can produce any color. To produce these colors, however, the beams must be precisely aligned over each other so that the colors can be mixed. The process of aligning these picture beams is called "convergence".

Over a period of time, the picture tubes can drift out of alignment due to normal bumps and vibrations or moving the TV. If you move your TV, or if, after a time, you notice color rings or halos around objects in the picture, you may want to converge (align) the colors.

To simplify convergence, Hitachi incorporates a function called MAGIC FOCUS, which allows the TV to self adjust so it can obtain the highest quality picture possible. Press the MAGIC FOCUS button located on the front panel to allow the TV to self adjust. This process will take approximately 2 minutes. If this button is pressed during this 2 minute period, no change in picture quality will occur. After this 2 minute self adjust period, picture quality will be optimum. (Do not move TV during self adjust.)

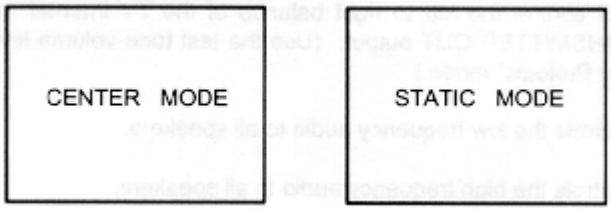
To enter this self adjust mode, you may also select Convergence Correction from the VIDEO Menu. However, this will display a message prompting you to press front panel MAGIC FOCUS button.

Properly converged, the lines appear white, which is actually a combination of the outputs of the three color tubes. The output of the green tube is stationary. The outputs of the red and blue tubes can be adjusted. When properly aligned, the outputs of all three tubes should be directly over each other to produce the white lines.



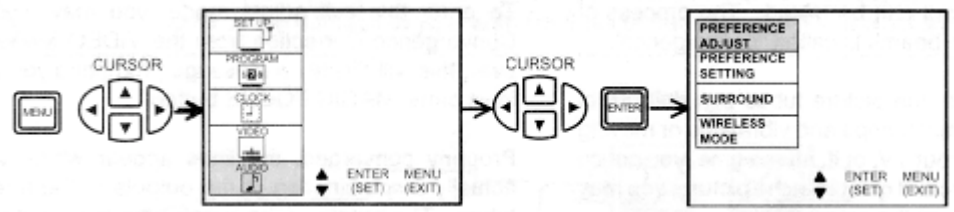
NOTE: Only a momentary press of the MAGIC FOCUS button is necessary to start AUTO DIGITAL CONVERGENCE. At any time during this convergence correction process, you may press the MAGIC FOCUS button to exit the convergence correction mode.

Do not press the MAGIC FOCUS button for more than 3 seconds. This is only for extreme cases of misconvergence and requires assistance from service. If one of the pictures shown below appears on the television screen, press the MAGIC FOCUS button a second time to exit this manual set up mode.



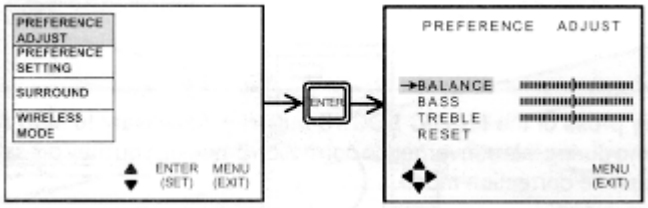
AUDIO

Select AUDIO to adjust the TV to your preference, to improve the sound quality, and to select special sound effects.



PREFERENCE ADJUSTMENT

Use this to set balance, bass, and treble.



Press the CURSOR buttons to select and make adjustments. The function to be adjusted will be in yellow.

BALANCE- This function will control the left and right balance of the TV internal speakers, the AUDIO TO HI-FI output, and TRANSMITTER OUT output. (Use the test tone volume levels to control balance when in "Surround-Dolby ProLogic" mode.)

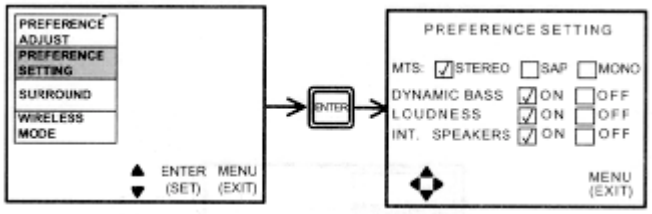
BASS- This function controls the low frequency audio to all speakers.

TREBLE- This function controls the high frequency audio to all speakers.

RESET- When RESET is selected, press ENTER to return audio adjustments to factory preset conditions.

PREFERENCE SETTING

Use PREFERENCE SETTING to improve the sound performance of your TV depending on listening conditions.



Use the CURSOR ▲, ▼ to select a function. The function will be in yellow.

MTS MODE (Multi-Channel Television Sound) will allow you to select STEREO (a stereo broadcast), SAP (second audio program) which may be a secondary language, weather report, etc. or MONO (monaural sound) used when receiving a weak stereo broadcast.

The sources received will be displayed below the channel number. The source you select will be displayed to the left of the channel number. See example below for each selection when both stereo and second audio are received (monaural is always received).

STEREO SELECTED

SAP SELECTED

MONO SELECTED

DYNAMIC BASS
This function allows you to enjoy spectacular bass sound that would normally be heard only with expensive home speaker systems.

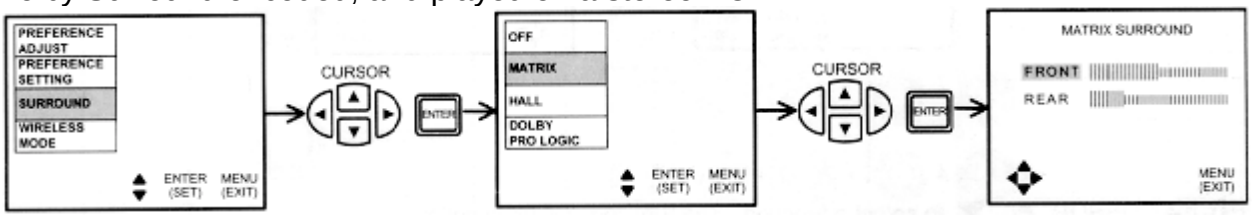
LOUDNESS
This function will improve the quality of both low and high frequency sounds when listening at low volume levels.

INT. SPEAKERS
This function is useful when first setting up the external speakers, or if you prefer to use only speakers from a separate stereo system.

NOTE: If the optional left and right speakers are connected while in SURROUND-DOLBY CENTER EXPANSION MODE-NORMAL, the internal speakers may be turned off for better separation between the left, center, and right channels. The center channel audio will still be heard from the televisions center speaker.

SURROUND

The following surround settings will reproduce the "live" sound you would hear in concert halls, sports stadiums, movie theaters, etc. when you set up your speaker system as shown in the section on rear panel connections on pages 13-15. The surround sound system is most effective with movie and other stereo material that is Dolby Surround encoded, and played on a stereo VCR.



When using Wireless Mode (TRANSMITTER OUT jacks on rear panel), rear mode must be chosen to receive the Surround audio program.

To enter the SURROUND MODE, use the CURSOR buttons to select SURROUND MODE or you can also press the SRD button on your remote control.

Use the CURSOR buttons to select surround setting and to select and adjust the volume of front and rear speakers. Front volume also controls AUDIO TO HI-FI. Adjust front volume first.

Each surround setting has separate front & rear volume controls, except OFF and Dolby 3CH which have no rear volume controls. DOLBY PROLOGIC also has a center volume.

The CENTER and REAR VOLUME will increase or decrease when FRONT VOLUME is adjusted to keep an equal balance between the surround channels.

The maximum volume allowed for the CENTER and REAR will depend on how loud the FRONT volume is set.

The FRONT volume is the same as the main TV volume.

SURROUND OFF
Use this for normal stereo/mono broadcasts.

MATRIX SURROUND

Listener is surrounded by many sound sources such as a sporting event, etc.

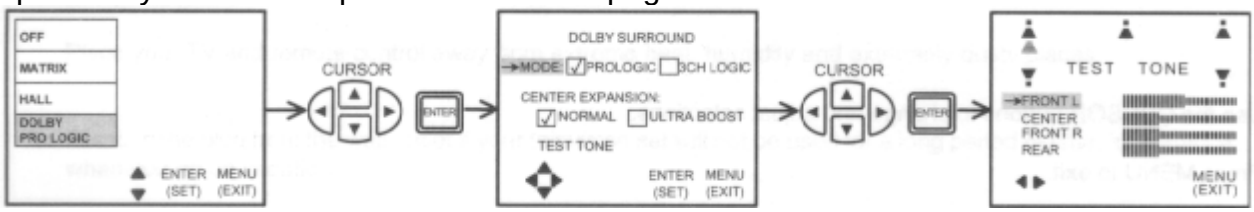
NOTE: Some TV systems do not transmit optimum audio channel separation which can reduce the effectiveness of the MATRIX SURROUND function.

HALL SURROUND
Resonant sound - Listener has the feeling of being in a concert hall.

DOLBY PRO LOGIC

Dolby Pro Logic provides four separate sound channels: left, center, right and surround. For a properly encoded program marked DOLBY SURROUND the center sound channel contains the dialogue for the program viewed. The left and right channels produce sound effect that will match the action on the TV screen. For example, Dolby Pro Logic will enhance the effect of a car viewed driving from the left side of the TV screen to the right side. The surround channel (speakers) are placed behind the viewing area to add additional spatial sound effects.

To fully benefit from Dolby Pro Logic Surround, it is recommended that the surround speaker system be complete as shown on page 15.

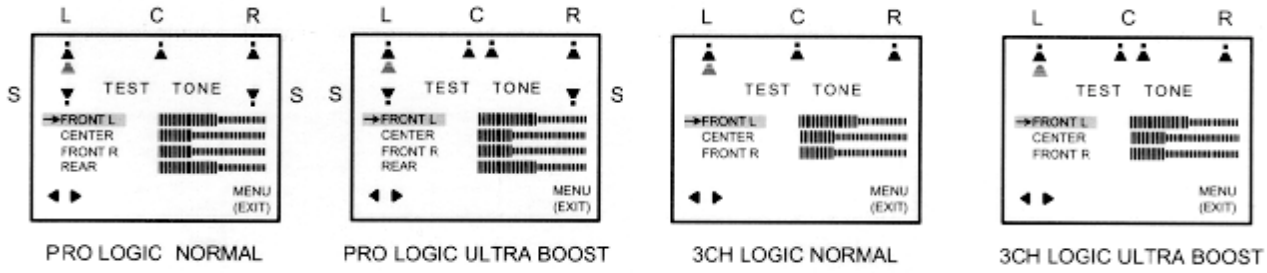


Use the CURSOR buttons to select the surround function.

MODE
Can be set to 3CH LOGIC or PRO LOGIC. When 3CH LOGIC is set, the surround channel sound is split equally between the left and right speakers of a separate audio amplifier. When PRO LOGIC is set, separate surround sound speakers must be used.

CENTER EXPANSION
This can be set to NORMAL or ULTRA BOOST. When NORMAL is set, center channel sound is sent to the TV center speaker only. When ULTRA BOOST is set, center channel sound is split equally between the left and right TV speakers.

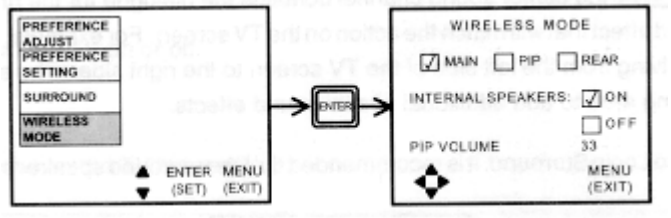
TEST TONE
A test sound is generated allowing the listener to balance volume from each channel. Adjust the volume levels until all channels are equal.



Use the CURSOR buttons to select and adjust VOLUME and BALANCE.
Press MENU to exit.

WIRELESS MODE

This feature allows you to choose between 3 possible variable audio outputs for a separate set of wireless speakers or another stereo amplifier. The audio output may be either MAIN, PIP or REAR. This feature also allows you to turn the interior speaker on or off, as well as adjust PIP volume if you have chosen PIP as your variable audio input.



Use the CURSOR buttons to change and adjust selections.

Press MENU to exit.

MAIN Mode
When set to MAIN mode, your wireless speakers will play the same audio program as played on your TV. When set to this mode, you may choose to turn the televisions' internal speakers on or off. Also, the volume of your wireless speakers will be controlled by the TV volume control.

PIP Mode
When set to PIP mode, your wireless speakers will play the PIP sub-picture audio program. The volume of your wireless speakers will now be controlled by the PIP VOL. control, which may be varied from 01 (min.) to 33 (max.). If no sub-picture is displayed, the wireless speakers will play the main channel audio program, with the volume still controlled by the PIP VOL. control.

REAR Mode
When set to REAR mode, your wireless speakers will play the Surround audio program. The volume of your wireless speakers will be controlled by the TV volume control, dependent upon the amount of REAR selected from SURROUND mode. (See pages 42, 43)

CARE OF YOUR HITACHI PROJECTION TV AND YOUR REMOTE CONTROL

DO

Dust the screen and cabinet with a soft cloth.

Clean the screen with a soft cloth moistened in warm water. Dry with a soft cloth. (A mild soap may be used if the screen is extremely dirty.)

Place your TV and remote control away from extreme heat, humidity and extremely dusty places.

Remove the plug from the wall outlet if your television set will not be used for a long period of time, for instance, when you go on vacation.

DO NOT

Do not clean your screen or cabinet with strong cleaners, polishes or chemically treated cloth.

Do not place rubber or vinyl products or cellophane tape on your set.

Do not touch the screen too often.

Do not subject the Remote Control to shocks such as dropping it on the floor, etc. Physical damage to the precision parts may result.

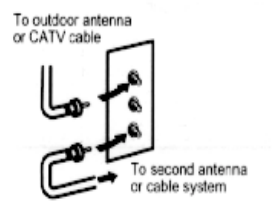
Avoid placing the Remote Control in a high humidity place or getting it wet. Don't leave it on or near a heater. Excessive heat or moisture may cause the unit to cease operation.

When the batteries run down, remote control operation will become erratic or possibly stop altogether.

Replace the old batteries with two fresh "AA" size batteries.

Exposure of the viewing screen to prolonged direct sunlight or heat may cause the screen to permanently warp, resulting in a distorted picture.

RECEPTION PROBLEMS



IGNITION NOISE:
Black spots or horizontal streaks may appear, picture may flutter or drift. Usually caused by interference from automobile ignition systems, neon lamps, electrical drills and other electrical appliances.

GHOSTS:
Ghosts are caused by the television signal following two paths. One is the direct path and the other is reflected from tall buildings, hills or some other objects. Changing the direction or position of the antenna may improve reception. Ghosting may also be caused by defects in the antenna system such as unshielded leads or connecting several sets to the same antenna without using multiple antenna couplers.

SNOW:
If your receiver is located in the fringe area of a television station where the signal is weak, your picture may be marred by the appearance of small dots. When the signal is extremely weak, it may be necessary to install a special antenna to improve the picture.

RADIO FREQUENCY INTERFERENCE:
The interference produces moving ripples or diagonal streaks, and in some cases, causes loss of contrast in the picture.

CHECK HERE BEFORE CALLING FOR SERVICE

Click here to see Troubleshooting Chart.

This Projection Television incorporates advanced power surge protection technology

designed to protect against component or circuit damage due to external or internal voltage or power surges.
IF YOUR SET SHOULD APPEAR TO HAVE A LOSS OF POWER, PLEASE FOLLOW THIS PROCEDURE:
1) Push the power switch (ON/OFF switch) once.
2) If there is still no power, wait 30 seconds and push the power switch again.
3) If there is still no power, unplug the power cord from the wall. Wait thirty seconds and plug the power cord back in. Push the power switch again.
This protective technology should provide for years of lasting entertainment from your Projection Television.

SPECIFICATIONS

Features:

Superfine Picture Quality 1000 Line Horizontal Resolution
Pure Green and Red Filter Lenses
Artificial Intelligence System
Dolby Pro Logic*/Hall/Matrix 3-Way Surround Sound
Remote (Controls many VCR brands, cable boxes, and other audio equipment)
Easy Graphic On-Screen Display
Full set of Input Jacks, Including S-Video
Closed Caption Decoder
High Resolution Picture-In-Picture with Strobe Freeze
Tuned Port Bass Reflex Speakers
Magic Focus (Auto Digital Convergence)

* Registered Trademark Dolby Laboratories

Manufactured under license from Dolby Laboratories Licensing Corporation. Additionally licensed under one or more of the following patents: U.S. number 3,959,590; Canada numbers 1,004,603 and 1,037,877. "Dolby", "Pro Logic", and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

Inputs:

Power Input.....AC 120V, 60 Hz

Power consumption (operating)
46UX20B/21K.....165W
50UX22B/23K.....165W
50SX7P, 60SX10B/11K.....162W

Power consumption (maximum)
46UX20B/21K.....240W
50UX22B/23K.....240W
50SX7P, 60SX10B/11K.....240W

Antenna input impedance.....75 Ohm
Channel coverage.....181 ch.
VHF-Band.....2 ~ 13
UHF-Band.....14 ~ 69
CATV Mid Band.....A-5 ~ A-1, A-I
Super Band.....J-W
Hyper Band.....W+1 - W+28
Ultra Band.....W+29 - W+84

Video.....1.0Vp-p, 75 Ohm
S-Video
Luminance (Y).....1.0Vp-p, 75 Ohm
Chrominance (C).....0.286Vp-p, 75 Ohm

Audio input impedance.....47k Ohm
Average input level.....470mVrms
Maximum input level.....940mVrms

Outputs:
Video.....1.0Vp-p, 75 Ohm

Audio (fixed).....470mVrms, 1k Ohm

Dimensions:

	46UX20B/21K	**50UX22B/23K**	**50SX7P**	**60SX10B/11K**
Height (in.)	48 3/8	50 13/16	50 13/16	52 1/8
Width (in.)	40	43 1/4	43 1/4	60
Depth (in.)	22 1/2	21 7/16	21 5/8	22 11/16
Weight (lbs.)	221	250	250	391

NOTE: Due to improvements, specifications in this operating guide are subject to change without notice.

HITACHI SERVICE HOTLINE

To locate an authorized HITACHI service facility in the continental U.S.A.
DIAL TOLL FREE
7 days a week, 24 hours a day
800 HITACHI
1-800-448-2244

Hitachi Home Electronics (America), Inc.

Hitachi has made every effort to assure you hours of trouble free operation from your

unit. However, should you require service, a network of Hitachi Authorized Service Facilities has been established in all 50 states and Puerto Rico. Each facility will provide you with convenient and expedient assistance. Our service "Hotline" operator will direct you to the Hitachi Authorized Service Facility nearest you. Just present proof of purchase and/or delivery receipts to the Hitachi Authorized Service Facility, and service will be rendered in accordance with the terms of the limited warranty as stated on your warranty card or operating guide.

Should you have any questions regarding in-warranty service, operation or technical assistance, please contact:

Hitachi Home Electronics (America), Inc
3890 Steve Reynolds Blvd
Norcross, GA 30093
Tel: 404-279-5600

Hitachi Sales Corporation of Hawaii
3219 Koapaka St.
Honolulu, HI 96819
Tel: 808-836-3621

WARRANTY CARD, front

HITACHI PROJECTION TV LIMITED WARRANTY

Hitachi Home Electronics (America), Inc.
Hitachi Sales Corporation of Hawaii
Hitachi Home Electronics (America), Inc. and Hitachi Sales Corporation of Hawaii ("Hitachi")
warrant this component in duration as stated below:

Lifetime Lens, 2 Years CRT, 1 Year Parts, 90 Days Screen, 1 Year Labor

Conditions of Hitachi Limited Warranty
Hitachi Projection TVs are warranted to be free of defects in parts and workmanship from the time of purchase by the original owner. If this product is found to be defective, Hitachi will repair or replace defective parts at no charge for the parts to the original owner, subject to the conditions of the Limit Warranty. The labor for the repair or replacement of the defective parts will be provided by Hitachi without charge, subject to the conditions of the Limited Warranty.

1. PARTS - The warranty periods for parts are: Lifetime for main optical lens, 90 days

on the screen, 2 years on the CRTs and 1 year on the remaining parts from the date of original purchase. During the applicable limited warranty period for parts, defective parts will be replaced at no charge for the part. Parts used for the replacement will be warranted for the remainder of the original warranty period for that part.

2. LABOR - For a period of 90 days from the date of purchase, Hitachi will repair or replace the screen if it proves to be defective without charge for labor. For all other parts, Hitachi will provide the labor for warranty repair at no charge for the period of one year from date of original purchase. Except for the screen as noted above, the labor service during this one year period includes (at Hitachi's option) either in-home repair or free pick up and delivery.

3. Owner must provide verification of the date of purchase when requesting Limited Warranty Service. (Dated Sales Receipt Required)

4. All repairs must be performed by a Hitachi Authorized Service Facility.

For information concerning repairs, operation, technical assistance or for obtaining the location of the nearest Hitachi Authorized Service Facility or Parts Distributor, please call the number below.

1-800-HITACHI (1-800-448-2244)
Hitachi Home Electronics (America), Inc
3890 Steve Reynolds Blvd
Norcross, GA 30093
Tel: 1-404-279-5600

Hitachi Sales Corporation of Hawaii
3219 Koapaka St.
Honolulu, HI 96819
Tel: 1-808-836-3621

WARRANTY CARD, back

Warranty Limitations
The Limited Warranty provided by Hitachi does not cover:
A. Antennas, cabinet, cabinet parts, knobs, batteries and accessories.
B. Screens that have been cleaned with anything other than water and a mild soap solution.
C. Lenses from units that have been sold or transferred from the original purchaser. Any lens element that is permanently attached to the CRT assembly is excluded from the lifetime warranty. The labor to repair or replace will be at no charge during the one

year warranty duration. Labor charges to repair or replace lenses found to be defective after the one year warranty duration will not be covered.
D. Any new product purchased or service performed outside of the continental United States or its possessions.
E. Uncrating, setup, installation, or adjustments of customer operated controls.
F. Repairs or replacement parts supplied by other than an Authorized Hitachi Service Facility.
G. Any defect, malfunction, or failure caused by or resulting from improper service, maintenance, repair, or from abuse, neglect, accident or any other cause beyond the control of Hitachi.
H. Any product used for commercial or industrial purpose.
J. Any unit that has been sold or transferred from the original owner.

This limited warranty is made only to the original consumer purchaser of this Hitachi Projection TV and is effective only upon presentation of evidence of provable date of purchase.

NO PERSON, AGENT, DISTRIBUTOR, DEALER, SERVICE FACILITY, OR COMPANY IS AUTHORIZED TO CHANGE, MODIFY OR AMEND THE TERMS OF THIS LIMITED WARRANTY IN ANY MANNER OR FASHION WHATSOEVER. EXCEPT AND TO THE EXTENT PROVIDED IN THIS LIMITED WARRANTY, HITACHI MAKES NO EXPRESS WARRANTY REGARDING THIS HITACHI PRODUCT. FURTHER, ALL IMPLIED WARRANTIES RELATING TO ANY PORTION OF THIS PRODUCT, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO THE DURATION OF THE APPLICABLE EXPRESS WARRANTY CONTAINED ABOVE. HITACHI SHALL NOT BE LIABLE TO THE PURCHASER OR TO ANY OTHER PERSON FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGE OR LOSS OF PROFIT OR PRODUCT RESULTING FROM ANY DEFECT IN OR MALFUNCTION OR FAILURE OF THIS HITACHI PRODUCT. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, OR THE EXCLUSION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU. THIS WARRANTY GIVES SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

Important Notice:
Retain your sales receipts for warranty purposes. Please complete the section below for your records, as it may be needed in the event of loss.

HITACHI

Projection TV
Limited Warranty Registration
(For your record - Attach sales receipt to this card)
Model no.
Serial no.
Dealer Name
Date of Purchase
Dealer Address
City
State
Zip

---

[1]**FYI Only!!!**
We have had many callers tell us the magic focus feature did not converge their sets properly. If the caller complains the Magic Focus feature is not working, follow instructions below, then see "Technical Survey" in HP02.

To Manually Converge the Set:
Press and hold in the Magic Focus button until "Static Mode" appears on the screen, then release the button. Two lines should divide the screen into four sections. We can now manually adjust our red and blue color guns. Using the blue arrow keys on the remote control, move the blue and red lines up, down, left, and right to make the vertical and horizontal line as white as possible. You can only adjust on color (red or blue) at a time. To switch from one to the other, press the enter button. When finished, press menu!
[2]The manual states these settings begin on page 43. They actually start on page 42 and continue to page 43.
[3]**FYI Only!!!!**
Several of Hitachi's projection televisions had multiple problems with the closed captioning feature. The closed captioning would sometimes appear even though the feature was turned off. In other cases alphanumeric captioning would appear in the upper left hand corner of the set. (not to be confused with the channel labeling. Please see "Techniacal Survey" in HP02.

[4]Callers will normally have the problem of erasing a labeled channel. Everytime they select "Channel Caption" to delete a label, a message appears explaining that the memory is full. This means the channel they are currently tuned to is not labeled, therefore cannot be canceled. The set assumes they want to label this channel. Ask the caller to tune to a channel that is labeled then select "Channel Caption" to cancel the labeling.
[5]**You can always either lock or unlock any one of the four channels using code "777", regardless of what the key number actually is. Code "777" will always lock or unlock each station.**